

Remarks

Applicant has amended claims 1, 16 and 22. Applicant respectfully submits that no new matter was added by the amendment, as all of the amended matter was either previously illustrated or described in the drawings, written specification and/or claims of the present application. Entry of the amendment and favorable consideration thereof is earnestly requested.

The Examiner has rejected claims 71 – 29 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,744,370 to Sleichter, III et al. ("the '370 patent") in view of U.S. Patent No. 6,831,572 to Stumolo ("the '572 patent"). These rejections are respectfully traversed.

35 U.S.C. §103(a) Rejections

Claims 1, 10 and 21 require at least the following limitation, a control signal generated by said control interface for controlling a plurality of vibratory units or tactile sensation generators based upon a determined direction and distance of the identified threat relative to the vehicle. Additionally, Claim 16 requires among other limitations outputting the control signal to the selected vibratory unit to indicate to the user the distance and direction of the identified threat relative to the position of the object. Still further, Claim 22 requires among other limitations energizing a plurality of vibratory elements when threat distance and direction information is mapped to the plurality of vibra-

tory elements to provide a threat detection signal that indicates to the person the distance and direction of the threat relative to the person.

The Examiner has submitted that while the '370 patent does not indicated the distance between a vehicle and an object, the '572 patent does provide this information and that it would be obvious to combine these references. (See, Official Action, pp. 2 – 3). Applicant respectfully disagrees.

The '370 patent teaches that the system may “directionally stimulate the driver in correspondence with the directional components” and that a “signal can be a collision waning signal, the directional component corresponding to the heading relative to the hazard object.” (Col. 6, lines 1 – 10; Col. 7, lines 1 – 10). Alternatively, the '572 patent teaches that “[a]udio systems 100 and 102 may warn an operator in a verbal format such as a recorded voice, warning tones, and text-to-speech. Video systems 104 and 106 may include a radar display, a data capable phone, a wireless-enabled personal digital assistant, a navigation system, a telematic system, and a video entertainment system. The audio systems 100 and 102 and video system 104 and 106 convey approaching vehicle information to an operator including proximity, position, velocity, distance, direction of travel, time to impact, and other relative information as to inform the operator of a potential collision.” (Col. 5, lines 3 – 13). Therefore, combination of the '370 patent with the '572 patent as suggested by the Examiner would result in a system that provides tactile indication of the direction an object is from the vehicle and further provides audio and/or visual information relating to the distance of the object from the

vehicle. As brought out in the specification of the present application, while audio and visual indicators are known in the art, these are disfavored because the extreme speeds the aircraft is traveling and the relative large number of indications the pilot already has to visualize and audibly detect. (Paras. 2 – 4). Alternatively, all the pending claims require tactile indication to the user of both the direction and the distance of the threat relative to the aircraft.

Applicant further respectfully submits that there is absolutely no suggestion in either the '370 patent or the '572 patent to further modify this combination to provide tactile indication of the distance of a threat to the vehicle as required by the pending claims. For example, there is no control system in either the '370 patent or the '572 patent that could generate and process such a signal. If one were to use the control system taught in the '370 patent, there isn't even provision for distance determination and resolution. If one were to use the control system taught in the '572 patent, there is no provision for controlling tactile indicators. It is further not clear if the tactile indicators could transmit and distance signal to the user.

Accordingly, Applicant respectfully submits that because neither the '370 patent nor the '572 patent teach, disclose or suggest controlling a plurality of vibratory units or tactile sensation generators based upon a determined direction and distance of the identified threat relative to the vehicle as required by the pending claims, no combination of these references can render the pending claims obvious. Applicant further respectfully submits that there is no suggestion in either reference for further modification

of the combination to arrive at the pending claims other than by review of the present application.

Claim 1 has further been amended to include the limitation, wherein the plurality of vibratory units indicate a three-dimensional location of the identified threat relative to the vehicle. Again this is not taught in either the '370 patent or the '572 patent. Three dimensional targeting or identification is not applicable to either the '370 patent or the '572 patent as both references are directed toward automobiles. Alternatively, the altitude of an object as well as the location over ground are critical in determining threat detection for an aircraft. Applicant respectfully submits that there is no suggestion in either reference for modifying the combination to include three-dimensional location and indication of objects relative to a vehicle as an automobile typically will not collide with an object in a different plane than the ground upon which the automobile travels.

Accordingly, Applicant respectfully submits that because neither the '370 patent nor the '572 patent teach, disclose or suggest the plurality of vibratory units indicate a three-dimensional location of the identified threat relative to the vehicle as required by Claim 1, no combination of these references can render Claim 1 obvious.

It is respectfully submitted that claims 1 – 29, all of the claims remaining in the application, are in order for allowance and early notice to that effect is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to be "Stephen P. McNamara", written over a horizontal line.

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Page 9
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Response to Official Action

In the Drawings

There are no amendments to the drawings.